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10/532,610	04/25/2005	Jonathan A Clark	36-1896	5633

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EXAMINER	
ALI, FARHAD	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,610	CLARK, JONATHAN A	
	Examiner	Art Unit	
	FARHAD ALI	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/23/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims:

Claims 1-11 are pending in this Office Action.

Claims 1 and 6 are amended.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Apostolopoulos et al. (US 6,868,083) in view of Hirst et al. (US 6,581,166 B1).

Claim 1

Apostolopoulos teaches accessing data from a internet application over a distributed information network **(Column 4 Lines 20-26, "The network 150 can be a cellular telephone network (e.g., Third Generation (3G) cellular system), a packet network, the Internet, an intranet, a local network (e.g., a local area network), and a wireless local area network")**, comprising:

means for generating a plurality of access requests **(See Fig. 9, #800 "Information Stream")** for a plurality of duplicate series of packet data from one source

over a plurality of routes, each series comprising one instance of each packet of an ordered set of packets **(Column 5 Lines 36-47, "The transmitting device 134 also includes a multiple stream generator (MSG) 210 that is coupled to the packetizer 200 for generating at least a first stream 220 and a second stream 230 in response to an information stream 208 (e.g., a stream of packets) and multiple stream generation information (MSGI) 209. The first stream can include a portion of the information stream, the entire information stream, or none of the information stream. Similarly, the second stream can include a portion of the information stream, the entire information stream, or none of the information stream")**,

means for accepting the first instance to be received of each packet in the series, and means for assembling the accepted packets into a complete series **(Column 7 Lines 1-8, "The receiving device 140 includes a packet sorter 310 for receiving the subsets of packets and sorting the packets to recover the original order of the packets. The receiving device 140 also includes a recovery unit 320 coupled to the packet sorter for receiving the packets in original order and for reconstructing the communicated information. A decoder 330 is also provided for un-compressing information in a compressed format")**.

Apostolopoulos fails to teach a user terminal and means for discarding any subsequently received duplicate packet.

Hirst et al. teaches "The receipt and particular treatment of duplicate packets in an embodiment of the invention are described in greater detail as follows. Due to the fact that multicast and broadcast packets may be sent over both networks, it is

frequently the case that a particular station will receive duplicate packets from the two networks. For example, when the RND 203 receives a packet from the higher protocol layers whose destination MAC address is an Ethernet multicast address, it may send a copy of the packet over both ports on a redundantly connected computer. In turn, when NFDR 201 receives an Ethernet multicast packet, it tells the RND 203 to pass it up to the higher layers, while recording and saving the packet's IP checksum as a unique identifier. If a later packet having the same IP checksum is received, it is assumed to be the duplicate copy of the earlier packet. Accordingly, NFDR 201 causes the RND 203 to discard the packet, and discards the saved checksum" (Column 9 Lines 25-41) in order to allow "the host machine to be used to additionally, and even simultaneously, communicate on both the redundant network and another network such as a corporate LAN" (Columns 5-6, lines 65-2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to create the invention of Apostolopoulos reference to include "The receipt and particular treatment of duplicate packets in an embodiment of the invention are described in greater detail as follows. Due to the fact that multicast and broadcast packets may be sent over both networks, it is frequently the case that a particular station will receive duplicate packets from the two networks. For example, when the RND 203 receives a packet from the higher protocol layers whose destination MAC address is an Ethernet multicast address, it may send a copy of the packet over both ports on a redundantly connected computer. In turn, when NFDR 201 receives an Ethernet multicast packet, it tells the RND 203 to pass it up to the higher layers, while

recording and saving the packet's IP checksum as a unique identifier. If a later packet having the same IP checksum is received, it is assumed to be the duplicate copy of the earlier packet. Accordingly, NFDR 201 causes the RND 203 to discard the packet, and discards the saved checksum" as taught by Hirst et al. in order to allow "the host machine to be used to additionally, and even simultaneously, communicate on both the redundant network and another network such as a corporate LAN" (Columns 5-6, lines 65-2).

Claim 2

The modified Apostolopoulos reference teaches a terminal according to claim 1, further comprising means for determining the packet delay and variation over a first route and, if the packet delay and variation exceed acceptable limits in the access network, generating a request for access by means of one or more further routes **(Column 6 Lines 3-16, "The diverse path transmitter 240 can also receive quality of service requirements (QoS) 260 from the application (e.g., application 110). The quality of service requirements (QoS) 260 specify parameters, such as minimum required bandwidth, minimum acceptable packet loss, and minimum delay for a particular path. Based on the network information 254, route information 258, and quality of service requirements (QoS) 260, the diverse path transmitter 240 selectively transmits each subset of packets on a predetermined path")**.

Claim 3

The modified Apostolopoulos reference teaches a terminal according to claim 1, further comprising means for identifying an access route on which packet series delivery has fallen substantially behind others, and means for requesting an adjustment to the delivery process on that access route **(Column 7 Lines 13-19, "the receiving device 140 may also employ additional functional blocks in order to improve the performance. For example, the receiving device 140 can be configured to track the communication quality of each path (e.g. packet loss, delay, possible outage, etc.) and communicate this information to the sender. The sender can then in turn use this information to optimize the transmission")**.

Claim 4

The modified Apostolopoulos reference teaches a terminal according to claim 1, further comprising means for detecting the arrival of the first instance of a packet out of sequence, and means for buffering the said out of sequence packet until the first instance of any packets that should have preceded it are received **(Column 7 Lines 1-8, "The receiving device 140 includes a packet sorter 310 for receiving the subsets of packets and sorting the packets to recover the original order of the packets. The receiving device 140 also includes a recovery unit 320 coupled to the packet sorter for receiving the packets in original order and for reconstructing the communicated information. A decoder 330 is also provided for un-compressing information in a compressed format")**.

Claim 5

The modified Apostolopoulos reference teaches a terminal according to claim 1, further comprising means for detecting the out of sequence arrival of the first instance of a packet, and means for disregarding the subsequent arrival of all instances of any packets that should have preceded the out of sequence packet **(Column 7 Lines 1-8, "The receiving device 140 includes a packet sorter 310 for receiving the subsets of packets and sorting the packets to recover the original order of the packets. The receiving device 140 also includes a recovery unit 320 coupled to the packet sorter for receiving the packets in original order and for reconstructing the communicated information. A decoder 330 is also provided for un-compressing information in a compressed format")**.

Claim 6

Apostolopoulos teaches a method of accessing data from a internet application over a distributed information network **(Column 4 Lines 20-26, "The network 150 can be a cellular telephone network (e.g., Third Generation (3G) cellular system), a packet network, the Internet, an intranet, a local network (e.g., a local area network), and a wireless local area network")**, said method comprising:

generating a plurality of access requests **(See Fig. 9, #800 "Information Stream")** for a plurality of duplicate series of packet data from one source over a plurality of routes, each series comprising one instance of each packet of an ordered set of packets **(Column 5 Lines 36-47, "The transmitting device 134 also includes a**

multiple stream generator (MSG) 210 that is coupled to the packetizer 200 for generating at least a first stream 220 and a second stream 230 in response to an information stream 208 (e.g., a stream of packets) and multiple stream generation information (MSGI) 209. The first stream can include a portion of the information stream, the entire information stream, or none of the information stream. Similarly, the second stream can include a portion of the information stream, the entire information stream, or none of the information stream"), accepting the first instance to be received of each packet in the series, and assembling the accepted packets are assembled into a complete series **(Column 7 Lines 1-8, "The receiving device 140 includes a packet sorter 310 for receiving the subsets of packets and sorting the packets to recover the original order of the packets. The receiving device 140 also includes a recovery unit 320 coupled to the packet sorter for receiving the packets in original order and for reconstructing the communicated information. A decoder 330 is also provided for un-compressing information in a compressed format")**.

Apostolopoulos fails to teach discarding any subsequently received duplicate packet.

Hirst et al. teaches "The receipt and particular treatment of duplicate packets in an embodiment of the invention are described in greater detail as follows. Due to the fact that multicast and broadcast packets may be sent over both networks, it is frequently the case that a particular station will receive duplicate packets from the two networks. For example, when the RND 203 receives a packet from the higher protocol

layers whose destination MAC address is an Ethernet multicast address, it may send a copy of the packet over both ports on a redundantly connected computer. In turn, when NFDR 201 receives an Ethernet multicast packet, it tells the RND 203 to pass it up to the higher layers, while recording and saving the packet's IP checksum as a unique identifier. If a later packet having the same IP checksum is received, it is assumed to be the duplicate copy of the earlier packet. Accordingly, NFDR 201 causes the RND 203 to discard the packet, and discards the saved checksum" (Column 9 Lines 25-41) in order to allow "the host machine to be used to additionally, and even simultaneously, communicate on both the redundant network and another network such as a corporate LAN" (Columns 5-6, lines 65-2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to create the invention of Apostolopoulos reference to include "The receipt and particular treatment of duplicate packets in an embodiment of the invention are described in greater detail as follows. Due to the fact that multicast and broadcast packets may be sent over both networks, it is frequently the case that a particular station will receive duplicate packets from the two networks. For example, when the RND 203 receives a packet from the higher protocol layers whose destination MAC address is an Ethernet multicast address, it may send a copy of the packet over both ports on a redundantly connected computer. In turn, when NFDR 201 receives an Ethernet multicast packet, it tells the RND 203 to pass it up to the higher layers, while recording and saving the packet's IP checksum as a unique identifier. If a later packet having the same IP checksum is received, it is assumed to be the duplicate copy of the

earlier packet. Accordingly, NFDR 201 causes the RND 203 to discard the packet, and discards the saved checksum" as taught by Hirst et al. in order to allow "the host machine to be used to additionally, and even simultaneously, communicate on both the redundant network and another network such as a corporate LAN" (Columns 5-6, lines 65-2).

Claim 7

The modified Apostolopoulos reference teaches a method of accessing data from a internet application over a distributed information network, said method compromising:

Initially making a first access request for a series of data packets to be received over a first route, measuring the packet delay and variation of packets received over the first route and, if the packet delay and variation exceed a predetermined limit, obtaining one or more requests for duplicate series of data packets according to the method of claim 6 **(Column 6 Lines 3-16, "The diverse path transmitter 240 can also receive quality of service requirements (QoS) 260 from the application (e.g., application 110). The quality of service requirements (QoS) 260 specify parameters, such as minimum required bandwidth, minimum acceptable packet loss, and minimum delay for a particular path. Based on the network information 254, route information 258, and quality of service requirements (QoS) 260, the diverse path transmitter 240 selectively transmits each subset of packets on a predetermined path")**.

Claim 8

The modified Apostolopoulos reference teaches a method according to claim 6, wherein the duplicate series of packets are obtained using different access servers **(Column 8 Lines 18-30, "A path may be defined by specifying (1) all the nodes to be traversed (i.e., the complete route), or (2) a subset of all the nodes to be traversed (i.e., a partial route). When a subset of all the nodes in a route is specified, this subset may be (1) one or more nodes in the beginning portion of a route (the first hop(s)), (2) one or more nodes in the middle portion of a route (the middle hop(s)), (3) one or more nodes in the end portion of a route (the last hop(s)), or a combination of the above. It is noted that these different techniques for specifying the paths may be used irrespective of the manner in which the path diversity is actually achieved (i.e., irrespective of whether a system achieves path diversity via a relay infrastructure, via source routing, or via another approach)")**.

Claim 9

The modified Apostolopoulos reference teaches a method according to claim 6, wherein: if packet series delivery on one access route has fallen substantially behind others, an adjustment to the delivery process is made on that access route **(Column 7 Lines 13-19, "the receiving device 140 may also employ additional functional blocks in order to improve the performance. For example, the receiving device 140 can be configured to track the communication quality of each path (e.g. packet loss, delay, possible outage, etc.) and communicate this information to the**

sender. The sender can then in turn use this information to optimize the transmission").

Claim 10

The modified Apostolopoulos reference teaches a method according to claim 6, wherein if the arrival of the first instance of a packet is out of sequence, the out of sequence packet is buffered until the first instance of any packets that should have preceded it are received **(Column 7 Lines 1-8, "The receiving device 140 includes a packet sorter 310 for receiving the subsets of packets and sorting the packets to recover the original order of the packets. The receiving device 140 also includes a recovery unit 320 coupled to the packet sorter for receiving the packets in original order and for reconstructing the communicated information. A decoder 330 is also provided for un-compressing information in a compressed format")**.

Claim 11

The modified Apostolopoulos reference teaches a method according to claim 6, wherein:

if the arrival of the first instance of a packet is out of sequence, all instances of any packets that arrive subsequently but should have preceded the out of sequence packet are disregarded **(Column 7 Lines 1-8, "The receiving device 140 includes a packet sorter 310 for receiving the subsets of packets and sorting the packets to recover the original order of the packets. The receiving device 140 also includes a**

recovery unit 320 coupled to the packet sorter for receiving the packets in original order and for reconstructing the communicated information. A decoder 330 is also provided for un-compressing information in a compressed format").

Response to Arguments

3. Applicant's arguments with respect to claims 1-11 have been considered but they are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FARHAD ALI whose telephone number is (571)270-1920. The examiner can normally be reached on Monday thru Friday, 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Farhad Ali/
Examiner, Art Unit 2446

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2446